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ABSTRACT

This study looked at Medical College Admissions Test (MCAT) scores by race in relation to medical college status. It was found that promoted students differed significantly on all four MCAT subtests from those dismissed for academic difficulties and those repeating a year. For both black and white racial groups, the latter two status categories also differed on MCAT subtests. Implications for admissions officers are discussed, and a table giving probabilities of success in medical school as a function of MCAT score intervals is presented. (Author)

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THE MCAT AND SUCCESS IN MEDICAL SCHOOL

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THE MCAT AND SUCCESS IN MEDICAL SCHOOL

This study looked at Medical College Admission Test (MCAT) scores by race in relation to scholastic status. The data was derived from the 1970 matriculants to U.S. & Canadian Medical Colleges.

There are 6 racial groups considered: Blacks, American Indians, Caucasians, Oriental, All Spanish-speaking Americans, and other minority groups. A seventh group comprised all those of "unknown" racial origin. There are a total of 16 scholastic-status categories which reflect the status of the student during the first two years of medical school. Of these, three seem best to describe three levels of sucess in these first two years. The three scholastic status groups of main concern were: those *dismissed* for academic difficulties; those *repeating* a year; and those *promoted* on schedule.

First, data was broken down by the three status groups with race ignored. Table 1 gives mean MCAT scores for each status group for each subtest of the MCAT. Standard deviations are also included.

TABLE 1

MCAT Means and Standard Deviations by Status Group

Status Group		MCAT Subtests			
		Verbal	Quant.	Gen. Info.	Science
Dismissed	Mean	486.7	537.5	487.9	484.8
(N=52)	S.D.	90.98	116.47	71.88	90.00
Repeating	Mean	473.3	502.7	492.1	477.6
(N=134)	S.D.	133.04	112.66	88.29	92.26
Promoted	Mean	554.8	610.6	562.3	562.58
(N=9428)	S.D.	101.24	86.69	77.15	70.99

The differences in the MCAT means for all subtests between the *promoted* groups and the other two groups are significant at the .01 level.

Somewhat surprising is the fact that the MCAT scores do not seem to differ to any appreciable extent between the *dismissed* group and the *repeating* group. Both intuitively and from similar data in the "Doctor or Dropout" study by Johnson and Hutchins 1966, page 162 one would expect the *repeating* group to have somewhat better MCAT scores than the *dismissed* group.

A look at the breakdown by status group and race provides a partial answer to this apparent discrepancy. It is found, for example, that 40% of the *repeating* group are black, whereas only 17.5% of the *dismissed* group are black. Since blacks tend to have lower scores than the whites overall, this is enough to lower the *repeating* average below the *dismissed* average.

The complete breakdown of MCAT means by status and by the three racial groups "unknown", "black", and "white" is given in Table 2. Since these three racial groups comprise at least 92% of each status group there was little point in presenting the data for the other racial groups.

TABLE 2

MCAT AVERAGES BY RACIAL GROUP and MEDICAL COLLEGE STATUS

M.C. STATUS	Unknown (#)	Black (#)	White (#)
	VERBAL		
Dismissed	514 (19)	398 (10)	522 (19)
Repeating	509 (36)	426 (55)	538 (33)
Promoted	565 (3156)	454 (299)	559 (5565)
	QUANT.		
Dismissed	576 (19)	408 (10)	579 (19)
Repeating	516 (36)	432 (55)	606 (33)
Promoted	618 (3156)	467 (229)	616 (5565)
	GENERAL INFO.		
Dismissed	498 (19)	429 (10)	516 (19)
Repeating	551 (36)	434 (55)	530 (33)
Promoted	572 (3156)	465 (299)	566 (5565)
	SCIENCE		
Dismissed	524 (19)	387 (10)	503 (19)
Repeating	510 (36)	418 (55)	548 (33)
Promoted	570 (3156)	456 (299)	566 (5565)

Table 2 shows that the MCAT means for the *repeating* group are higher than for the *dismissed* group for both the "black" and the "white" racial groups. Thus the expected difference does exist for both of the major racial groups. This pattern is confounded by the group whose racial origin is "unknown" -- a group which, unfortunately, is quite sizable.

Table 2 also shows that, for whatever reasons, the "black" group can "succeed" in medical achool with lower MCAT scores than the "white" group, where success is narrowly defined as uninterrupted progress through the first two years in medical school -- (the *promoted* group). For example the black *promoted* group had lower MCAT averages than the white *dismissed* group. Yet the MCAT scores seemed to distinquish between blacks in the three status categories just as well as it did for whites.

Another useful breakdown of this data, of interest especially to Admissions Committees, is that of status by MCAT score intervals. Table 3 is derived from that breakdown and gives the probability that a student will either be *dismissed* or be *repeating* a year during the first two years of his medical education given that he scored below a certain MCAT score range. This is given for each subtest of the MCAT.

TABLE 3

PROBABILITY OF BEING DISMISSED OR REPEATING A YEAR BY MCAT SCORE

If MCAT Score Less Than	Probability of Being Dismissed or Repeating Year			
	Verbal	Quantitative	General Info	Science
350	.186	.259	.227	.258
400	.089	.181	.146	.169
450	.066	.126	.078	.104
500	.043	.079	.049	.058
550	.032	.050	.034	.035
600	.026	.033	.025	.024
650	.021	.026	.022	.021
700	.019	.022	.020	.020
800	.019	.019	.019	.019

This table illustrates the expected result that the lower a student's MCAT score the better chance he or she has of either being *dismissed* or *repeating* a year.

CONCLUSION

In conclusion the data presented show fairly clearly that the MCAT differentiates those succeeding in the first two years of medical education from those having failed or encountering some degree of difficulty by

having to repeat a year. This holds for both major racial groups. In addition it appears that blacks can succeed in medical school with lower levels of MCAT performance than the successful white student.